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TS-PIC-86081
August 1986

ORIGINAL
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Site Analysis
Bally Case and Cooler
Bally, Pennsylvania

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Contract No. 68-03-3161

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ABSTRACT

This analysis of historical aerial photography was conducted to document waste disposal activities and possible sources of ground water contamination in and around the Bally Case and Cooler Plant, located in Bally, Pennsylvania. Collateral information indicates that the Bally municipal water supply wells have shown significant levels of trichloroethane and trichloroethylene contamination. The ground water contamination is allegedly emanating from three former chemical waste lagoons reportedly located at the plant. However, consultants for Bally Case and Cooler suggest possible illicit dumping near the plant may be the source of pollution.

The most significant findings noted onsite during the course of this study include three impoundments, several trenches and ground scars, pits, containers and possible drums. No evidence of disposal activity outside the Bally Case and Cooler site was detected.

The Environmental Protection Agency's (EPA) Environmental Photographic Interpretation Center in Warrenton, Virginia, a field station of the Environmental Monitoring Systems Laboratory in Las Vegas, Nevada, performed this study at the request of EPA Region 3. This analysis covers the period between 1942 and 1984, and the report was completed in August 1986.

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INTRODUCTION

The Bally Case and Cooler Site (hereinafter referred to as BCC) is located in Bally, Pennsylvania and covers approximately 16 hectares (40 acres). In December of 1982, Bally Municipal Well No. 3 was found to be highly contaminated with 1,1,1-trichloroethane and trichloroethylene. A survey of the area determined that the most probable source of the problem was three reported chemical waste lagoons, formerly located at the BCC plant. In 1966, these lagoons were covered to provide additional parking and an office building. Since January 1986, Bally Municipal Well No. 1 has also shown increasing levels of the aforementioned chemicals. Well No. 1 provides domestic water for approximately 1,100 residents of the Borough of Bally.[1]

Aerial photography of the BCC Site was obtained to represent the period from 1942 to 1984.[2] Historical black and white photography for the years 1942, 1946, 1955, 1958, 1964, 1965, 1969, 1971, 1975 and 1980, and color infrared photography for 1979, 1981, 1983, and 1984 were used for this analysis.

Enlargements of 1958, 1964, 1971, 1979, 1980, 1981 and 1983 photography were not reproduced for this report due to the lack of significant changes in those years. Features of interest are annotated and discussed the first year they are visible; they are not further discussed or annotated unless significant change is noted.

Figure 1 depicts the site location and boundary, keyed to a U.S. Geological Survey (USGS) 1:24,000 scale topographic map. The site boundary is also annotated on the 1955 photograph (Figure 4).

Site boundaries or areas used in this analysis were determined through observations made from the aerial photography and do not denote legal property lines or ownership.

No evidence of vegetation stress or salvage was seen during the period of this analysis.

The Environmental Protection Agency's (EPA) Environmental Photographic Interpretation Center in Warrenton, Virginia, a field station of the Environmental Monitoring Systems Laboratory in Las Vegas, Nevada, performed this study at the request of EPA Region 3. This analysis was completed in August 1986.

[1]Collateral information supplied by EPA Region 3.

[2]A complete listing of all maps and photography used in this report can be found in the References section.

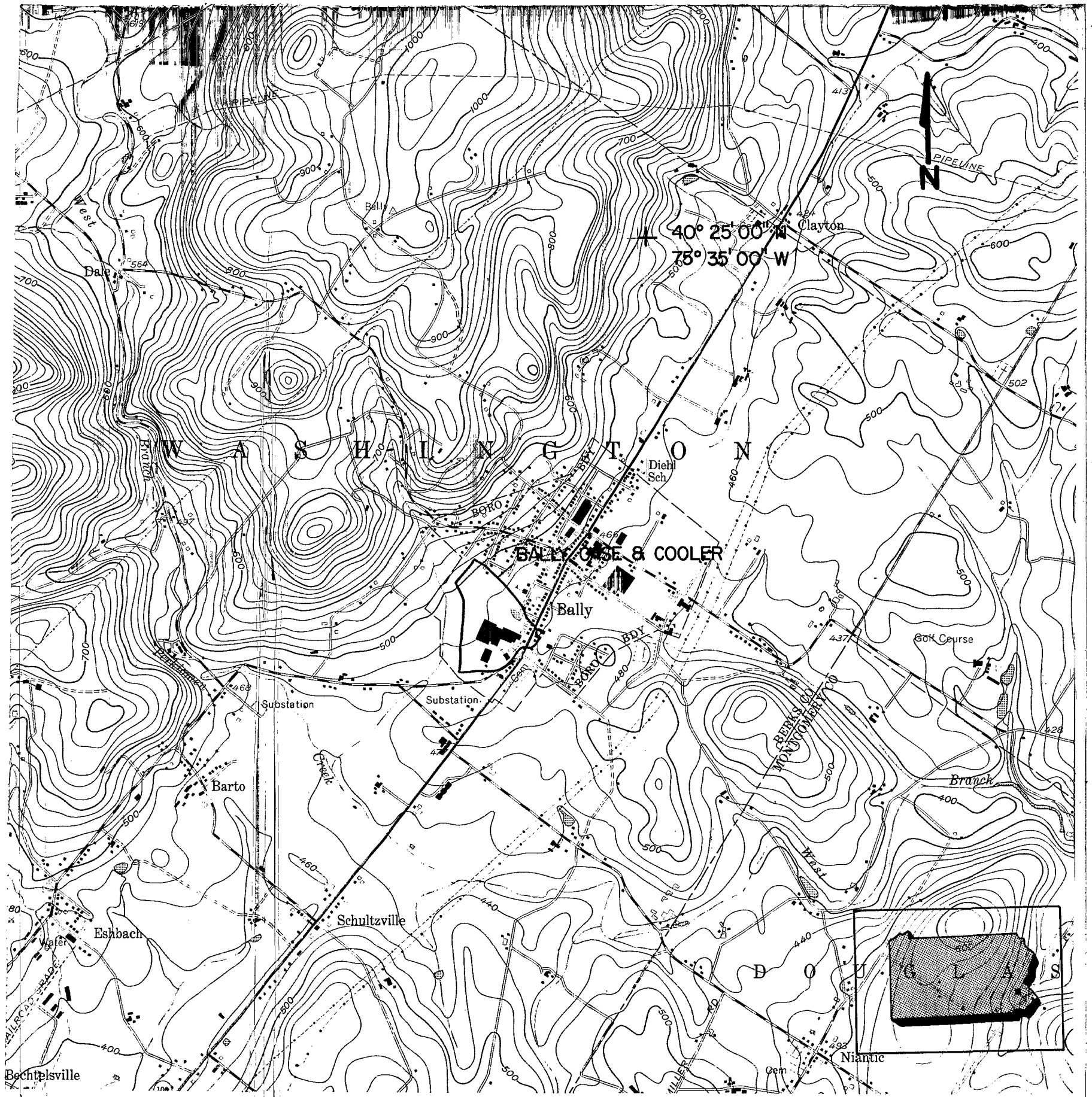

FIGURE 1
BCC

LOCATION MAP
EAST GREENVILLE, PA. QUAD

SCALE 1:24,000

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METHODOLOGY

A search of government and commercial aerial photographic sources was undertaken to obtain the best quality photography available of the site spanning the desired time frame. A listing of all maps and photography used for this report can be found in the References section.

The analysis was performed by stereoscopically viewing pairs of transparencies, backlit on a light table. By observing the site three-dimensionally, and at various magnifications, the analyst could search for objects, features, or "signatures" associated with different environmental conditions. The term "signature" refers to a combination of characteristics (such as color, tone, shadow, texture and size) which indicate a specific object or condition, even though the object itself is not identifiable from the photography.

Prints were made from coverages which reveal significant changes in the study area. Findings are annotated on overlays to these prints, or to maps of the study area, and full descriptions are provided in the accompanying text. The resolution quality of the original, transparent photography used by the analyst is degraded on the prints due to factors inherent in the printing process. Therefore, some objects or features identified from the original film and described in the text may not be clearly discernible, or even visible, on the photographic prints presented in this report.

It should be noted that site boundaries or areas used in this analysis were determined through observations made from the aerial photography and do not denote legal property lines or ownership.

In this report, a distinction is made between probable and possible identifications. Probable is used when a limited number of discernible signatures allows the analyst to be reasonably sure of a particular identification. Possible is used when few signatures are discernible, and the analyst can only infer an identification.

AERIAL PHOTO SITE ANALYSIS

OCTOBER 9, 1942 (Figure 2)

Little activity is noted in and around the BCC plant for this year's analysis. The BCC plant is accessed on the east side from Route 100. Four buildings (B) and an area of possible containers (C) are visible in the plant area. The "plant area" refers to the concentration of buildings located in the east central portion of the site.

Drainage in and around the BCC site consists of several unnamed drainage pathways flowing southeastward, east of the site. A stream is discharging into a pond located within the site's northeastern boundary. Drainage will not be further discussed unless significant change occurs.

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NOVEMBER 19, 1946 (Figure 3)

A new building (NB) and a building excavation (EX) are seen in the northwest portion of the plant area. A pit, containing a possible dark-toned material (not annotated), is present at the northern edge of the new building. An access road leads northwestward past the pit to a large ground scarred (GS) area. Other vehicle tracks are also visible between the ground scarred area and the plant. Light-toned (LT) mounded material (MM), possibly clean earthen fill from the nearby building excavation, is present at the western edge of the plant area.

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MAY 2, 1955 (Figure 4)

Two new buildings and six possible new buildings are seen in the western portion of the plant area. An impoundment (IM) and a probable impoundment are visible in the southwestern portion of the plant area. The impoundment contains a dark-toned liquid. A ground scarred area is visible to the west of the impoundment. A probable trench (TR), appearing empty, is present in the north central portion of the plant. Light-toned mounded material is seen in the southernmost portion of the plant area. No evidence is seen of the ground scar, access road or vehicle tracks that were present in the northwestern portion of the site in 1946.

Channelized and suspected drainage pathways, flowing eastward, are visible on the eastern, western and southern borders of the plant area. Drainage pathways are also evident for the first time in the fields west of the plant.

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MAY 14, 1965 (Figure 5)

NOTE: A photo defect is evident in the southwestern corner of the plant area. This feature is a degradation of the original film positive emulsion and is in no way associated with BCC.

Two new buildings have been constructed in the western and southern portions of the plant area. The western building was constructed over the impoundment and probable impoundment noted in 1955. Historical boundaries denote the former locations of these features. The six possible new buildings seen in the western portion of the plant area in 1955 are no longer visible.

Two impoundments, one containing dark-toned liquid and the other empty, are present on the southern edge of the plant area. The liquid-filled impoundment was also present in 1958 (no photo included) and contained a light-toned liquid. A trench, containing light-toned liquid, is present on the northern edge of the liquid-filled impoundment. Two areas of possible containers are visible in open storage (OS) areas in the northwestern and southwestern corners of the plant area. A ground scarred area is seen in the east central portion of the site. The probable trench seen in 1955 is no longer visible; however, its approximate location is annotated by a historical boundary. The ground scar and mounded material visible in 1955 are no longer present.

A suspected drainage pathway is seen in the southeastern portion of the plant area.

The suspected drainage pathways located along the eastern, western and southern edges of the plant area in 1955 are no longer visible.

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MAY 2, 1969 (Figure 6)

One new building has been constructed in the west central portion of the plant area. Several areas of possible containers are present along the western edge of the plant area. A trench, ground scars and mounded material, appearing to consist of clean earthen material, are seen near the central portion of the site. A large ground scar, with an access road leading to it from the plant area, is seen in the northwest portion of the site. A large ground scar is present on the eastern side of the facility. A smaller area of ground scarring was noted in this area in 1965. A possibly ground stained (GST) area is seen in the southwest corner of the plant area.

The two impoundments and trench seen in 1965 are no longer visible; their approximate locations have been annotated by historical boundaries.

South-flowing drainage pathways can be seen southwest of the BCC site.

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MARCH 9, 1975 (Figure 7)

Three new buildings have been constructed since 1969. The open storage area (not annotated) located along the western edge of the plant area has expand since 1969. Several areas of possible drums (D), containers and truck trailers are visible throughout the open storage area. Several ground scars, some of which appear linear, are present in the northwestern portion of the site. The origin or purpose of the linear ground scars is not ascertainable from the photography. An access road leads southeastward from the northwesternmost ground scar into the plant area. A trench, a probable pit containing a possible light-toned liquid, and a ditch are seen on the western edge of the plant. The trench appears to be empty. Dark-toned (DK) material (M), coarse-textured mounded material and a large ground scar are visible on the southwestern edge of the plant area. One ground stained area and three possible ground stained areas are present in the west central and eastern portions of the plant, respectively. The trench seen in 1969 is no longer visible; its approximate location is annotated by a historical boundary. The ground scarred areas seen in the central, northwestern and east central portions of the site in 1969 have revegetated and are no longer visible.

Intermittent drainage, flowing southwestward, is visible on the southwestern edge of the plant area.

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JULY 13, 1984 (Figure 8)

Two new buildings have been constructed since 1975. A possible pit, containing a light-toned material, and an area of coarse-textured light-toned material are present in the southwestern edge of the plant area. Vehicle tracks are visible in the northwestern portion of the site. A disturbed area (DA) is visible in the northwestern corner of the plant area. This feature may be construction-related. The trench, probable trench and probable pit visible west of the plant area in 1975 are no longer present. Historical boundaries show these features' approximate locations. The ditch visible in this area in 1975 is no longer visible (not annotated).

The pond, located in the northeastern corner in all previous years of photography, has been filled since 1981 and is now revegetated.

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JULY 13, 1984 (Figure 9)

This figure represents a composite of the most significant features detected during the course of this study. Each feature was transferred by hand to this photograph in order to provide the reader with a reasonably accurate representation of any given feature's present position within the site.

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REFERENCES

AERIAL PHOTOGRAPHY

Date	Agency	Mission Code	Frame #	Orig. Scale	EPIC Frame #
October 9, 1942	NARS[1]	AHO	12-14	1:20,000	14823:001-003
November 19, 1946	ASCS[2]	AHJ	11-13, 27-29	1:20,000	15124-15129
May 2, 1955	USGS[3]	VII	43,44, 143-145	1:24,000	14859-14863
October 6, 1958	ASCS	AHJ	22-24, 84-86	1:20,000	15118-15123
June 17, 1964	ASCS	AHJ	170-172, 184-186	1:20,000	15112-15117
May 14, 1965	TXAERO[4]	1495A	1305-1307	1:24,000	14983-14985
May 2, 1969	USGS	VCEY	258-260	1:24,000	14856-14858
July 18, 1971	ASCS	AHJ	35-38, 98-101	1:20,000	15130-15137
August 6, 1971	ASCS	AHO	171-173, 204,205	1:20,000	15000:099-103
March 9, 1975	TXAERO	---	950-952	1:24,000	14986-14988
May 2, 1979	USFS[5]	79/051	0656	1:32,500 at Nadir	79/051:0656

[1]National Archives and Records Service, U.S. General Services Administration

[2]Agricultural Stabilization and Conservation Service, U.S. Department of Agriculture

[3]U.S. Geological Survey, U.S. Department of the Interior

[4]Aero Service, Incorporated, Houston, Texas

[5]U.S. Forest Service, U.S. Department of Agriculture

AERIAL PHOTOGRAPHY

Date	Agency	Mission Code	Frame #	Orig. Scale	EPIC Frame #
April 23, 1980	ASCS	42011	38,39	1:24,000 at Nadir	105,106
June 19, 1981	USFS	81/110	0876	1:32,500 at Nadir	81/110:0876
June 23, 1983	USFS	83/041	2169,2170	1:40,000 at Nadir	83/041:2169, 2170
July 13, 1984	USFS	84/082	596,597	1:32,500 at Nadir	84/082:596, 597

MAP

Source	Name	Scale	Date
USGS	East Greenville, PA	1:24,000	1973

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